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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Cheon et al )  
Applicant's Ref: 60034-301901 ) Examiner: Unassigned  
Serial No.: 09/991,464 ) Group Art Unit: 1773  
Filed: November 21, 2001 ) Date: January 24, 2002  
Title: METHOD FOR SYNTHESIS OF )  
CORE-SHELL TYPE AND SOLID )  
SOLUTION ALLOY TYPE METALLIC )  
NANOPARTICLES VIA )  
TRANSMETALATION REACTIONS AND )  
APPLICATIONS OF SAME )

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: 25  
Assistant Commissioner for Patents, Washington, DC 20231 on January 24, 2002.

Signed:

*Cheryl Rogers*  
Cheryl Rogers

**PRELIMINARY AMENDMENT**

**Assistant Commissioner for Patents**  
**Washington, D.C. 20231**

Dear Sir:

Preliminarily, kindly amend the application as follows.

**In the Specification**

Please amend the specification as follows. A marked up version of the specification showing the changes made is attached to this communication at Appendix A.

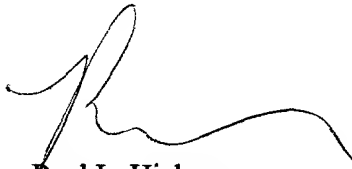
**REMARKS**

The abstract was amended so that it would not exceed 150 words. No new matter is introduced by this amendment herein, and entry thereof is requested. Claims 1-23 remain pending in this application.

If the Examiner believes that a conference would be of value in expediting the prosecution of this application, he is cordially invited to telephone the undersigned counsel at the number set out below.

Respectfully submitted,

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**APPENDIX A – VERSION WITH MARKINGS**  
**TO SHOW CHANGES (SPECIFICATION)**

200320-144T660

**VERSION WITH MARKINGS**  
**TO SHOW CHANGES (SPECIFICATION)**

Please amend the ABSTRACT as follows:

Disclosed is a method for producing core-shell type metallic nanoparticles involving (i) providing a dispersion of a first metal as nanoparticles in an appropriate organic solvent; (ii) providing a solution of a metallic precursor containing a second metal in an appropriate organic solvent, in which the second metal has a reduction potential higher than that of the first metal; and (iii) combining the dispersion from (i) and the solution from (ii) together to carry out the transmetalation reaction of the first and second metals, thereby forming core-shell type metallic nanoparticles. [Also, according to a second aspect of the invention, there is disclosed a. method for producing solid solution alloy type metallic nanoparticles involving (i) providing a solution of a thermally degradable metallic precursor containing a first metal in an appropriate organic solvent; (ii) providing a solution of a metallic precursor containing a second metal in an appropriate organic solvent, in which the second metal has a reduction potential higher than that of the first metal; and (iii) combining the solutions from (i) and (ii) together to carry out the transmetalation reaction of the first and second metals, thereby forming solid solution alloy type metallic nanoparticles.]